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Amendment Filed Herewith

IN THE SPECIFICATION

Please amend the specification as follows:

Amend the paragraph at column 1, lines 7-11, as follows:

(Amended) The present invention relates to a process for producing and obtaining 2,6-dialkylnaphthalene (DAN), in particular [2,6-dimethylnaphthylene] 2,6-dimethylnaphthalene (2,6-DMN) from a mixture which contains at least one of dialkylnaphthalenes, [monoalylnaphthalenes] monoalkylnaphthalenes or naphthalene.

Amend the paragraph at column 2, lines 30-31, as follows:

(Amended) According to another embodiment of the present invention is a method of [preparaing 2,6-dimethylnaphthylene] preparing 2,6-dimethylnaphthalene.

Amend the paragraph at column 2, lines 34-50, as follows:

(Amended) These and other objects of the present invention are made possible by a method of producing 2,6-dialkylnaphthalene from a feedstock which contains at least one component selected from the group consisting of [dialkynaphthalene] dialkylnaphthalene isomers, monoalkylnaphthalene isomers and naphthalene comprising the following steps:

I. separating a feedstock into [a] naphthalene, [monoalkynaphthalene] monoalkylnaphthalene, and dialkylnaphthalene fractions [:];

II. separating and purifying 2,6-dialkylnaphthalene from said [dialkylnaphthlane] dialkylnaphthalene fraction of step I;

III. alkylating said monoalkylnaphthalene fraction of step I with an alkylating agent to produce dialkylnapthalene;

IV. transalkylating said naphthalene fraction of step I and a dialkylnaphthalene fraction, after 2,6-dialkylnaphthalene is separated therefrom in step II, to produce monoalkylnaphthalene, and isomers of dialkylnaphthalene.

Amend the paragraph at column 4, lines 10-17, as follows:

(Amended) The conditions of alkylation include a temperature of about 0 to 500°C., and preferably 240 and 450°C., and a pressure of between 0 to 250 atmospheres and preferably 1 to 50 atmospheres. The mole ratio of alkylating agent to feed of [monoalkylnaphthylene] monoalkylnaphthalene or naphthalene can be from about 20:1 to 1:20, preferably from 10:1 to 1:10. The reaction is suitably accomplished utilizing a feed space velocity of about 0.1 to 10.0 hr^{-1}.

Amend the paragraph at column 5, lines 16-35, as follows:

(Amended) The method involves injecting the slurry or liquid of the temperature of 70 to 120°C., preferably 80 to 100°C., into a high pressure vessel for conducting a crystallization under high pressure; adiabatically pressurizing the vessel to a pressure of from 300 to 4,000 kgf/cm^2, preferably 500 to 2,000 kgf/cm^2 to increase the quantity, i.e. the amount of 2,6-dialkylnaphthalene crystals, whereby coexistence of solid-liquid phases exist at the high pressure conditions; discharging the liquid phase component from the high pressure vessel, the discharging being conducted under pressure, to increase the ratio of the solid phase relative to the liquid phase within the vessel; lowering the pressure of the residual liquid phase so as to dissolve partially and purify the product; discharging the residual liquid phase by applying pressure to the solid phase within the high pressure vessel whereby a 2,6-dialkylnaphthalene crystal block having a high purity is obtained with the high pressure vessel. By this technique, a purity of 2,6-dialkylnaphthalene (e.g. [2,6-dimethylnaphthylene] 2,6-dimethylnaphthalene) of ≥98% by weight, preferably ≥99% by weight may be obtained.

IN THE CLAIMS

Please amend Claims 1, 3, 9, 14-15 and 20-27 as follows:

1. (Amended) A process for producing 2,6-dialkylnaphthalene from a feedstock, comprising the following steps:

I. separating said feedstock into [a] naphthalene, [monoalkynaphthalene] monoalkylnaphthalene, and dialkylnaphthalene fractions:

II. separating and purifying 2,6-dialkylnaphthalene from said [dialkylnaphthlane] dialkylnaphthalene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkylnaphthalene fraction;

III. alkylating said monoalkylnaphthalene fraction of step I with an alkylating agent to produce dialkylnaphthalene and recycling the dialkylnaphthalene to step I;

IV. transalkylating said naphthalene fraction of step I and said second dialkylnaphthalene fraction produced in step II, to produce [monoaIkylnaphthalene] monoalkylnaphthalene, and isomers of dialkylnaphthalene; wherein said [monoalkynaphthalene] monoalkynaphthalene fraction produced in step I is cracked before step III, or in step III, or after step III.

3. (Amended) The process of claim 2, further comprising cracking of said dialkylnaphthalene fraction of step I and said naphthalene [fractions] fraction of step I before step IV, or in step IV, or after step IV.

9. (Amended) The process of claim 8, further comprising cracking of co-boiler of [dialkynaphthalene] dialkylnaphthalene at said 2,6-lean-dialkylnaphthalene stream before isomerization, or with the isomerization, or after isomerization and before step I.

14. (Amended) The process of claim [7] 10, wherein at least a part of the other components containing alkylnaphthalene having a higher boiling point than naphthalenes in the separation after the isomerization are dealkylated, then recycled to step I.

15. (Amended) The process of claim 1, wherein a part of said [dialkynaphthalene] dialkynaphthalene fraction after 2,6-dialkylnaphthalene is separated therefrom in step II are dealkylated, then recycled to step I.

20. (Amended) A process of preparing a polyethylenenaphthalate polymer or polybutylenenaphthalate polymer comprising;

A. oxidizing 2,6-dialkylnaphthalene to form 2,6-naphthalene-dicarboxylic acid; and

B. condensing said 2,6-naphthalene-dicarboxylic acid with a diol selected from the group consisting of ethylene glycol and butanediol to form a polyethylenenaphthalate polymer or [polybutyrenenaphthalete] polybutylenenaphthalate polymer

wherein said 2,6-dialkylnaphthalene is produced by a process comprising the following steps:

I. separating a feedstock into [a] naphthalene, [monoalkynaphthalene] monoalkynaphthalene, and dialkylnaphthalene fractions [:];

II. separating and purifying 2,6-dialkylnaphthalene from said [dialkylnaphthlane] dialkylnaphthalene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkylnaphthalene fraction;

III. alkylating said monoalkylnaphthalene fraction of step I with an alkylating agent to produce dialkylnaphthalene;

IV. transalkylating said naphthalene fraction of step I and said second dialkylnaphthalene fraction produced in step II, to produce monoalkylnaphthalene, and isomers of dialkylnaphthalene; wherein

said [monoalkynaphthalene] monoalkylnaphthalene fraction produced in step I is cracked before step III, or in step III, or after step III.

21. (Amended) A process for preparing a polyethylene naphthalate polymer or [polybutyrenenaphthalate] polybutylenenaphthalate polymer comprising;

A. oxidizing 2,6-dialkylnaphthalene to form 2,6-naphthalene-dicarboxylic acid; and

B. esterifying 2,6-naphthalene-dicarboxylic acid with methanol to form dimethyl-2,6-naphthalene-dicarboxylate; and

C. condensing said dimethyl-2,6-naphthalene-dicarboxylate with diol selected from the group consisting of ethylene glycol and butanediol to form a polyethylenenaphthalate polymer or [polybutyrenenaphthalate] polybutylenenaphthalate polymer

wherein said 2,6-dialkylnaphthalene is produced by a process comprising the following steps:

I. separating a feedstock into [a] naphthalene, [monoalkynaphthalene] monoalkylnaphthalene, and dialkylnaphthalene fractions [:];

II. separating and purifying 2,6-dialkylnaphthalene from said [dialkylnaphthlane] dialkylnaphthalene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkynaphthalene fraction;

III. alkylating said monoalkylnaphthalene fraction of step I with an alkylating agent to produce dialkylnaphthalene;

IV. transalkylating said naphthalene fraction of step I and said second dialkylnaphthalene fraction produced in step II, to produce monoalkylnaphthalene, and isomers of dialkylnaphthalene; wherein

said [monoalkynaphthalene] monoalkylnaphthalene fraction produced in step I is cracked before step III, or in step III, or after step III.

22. (Amended) A process for producing 2,6-dialkylnaphthalene from a feedstock, comprising the following steps:

I. separating said feedstock into a fraction comprising naphthalene and [monoalkynaphthalene] monoalkylnaphthalene and a fraction comprising dialkylnaphthalene;

II. separating and purifying 2,6-dialkylnaphthalene from said dialkylnaphthalene fraction of step I to produce 2,6-dialkylnaphthalene and a second [dialkynaphthalene] dialkylnaphthalene fraction;

III. dealkylating said naphthalene and [monoalkynaphthalene] monoalkylnaphthalene fraction of step I and said second dialkylnaphthalene fraction produced in step II;

IV. separating a naphthalene and [monoalkynaphthalene] monoalkylnaphthalene fraction from said dealkylation product of step III;

V. alkylating said naphthalene and [monoalkynaphthalene] monoalkylnaphthalene fraction of step IV; and

VI. recycling a product from step V to step I.

23. (Amended) A process for producing 2,6-dialkylnaphthalene from a feedstock, comprising the following steps:

I. separating said feedstock into a fraction comprising naphthalene and [monoalkynaphthalene] monoalkylnaphthalene, a fraction comprising dialkylnaphthalene and a fraction lean in dialkylnaphthalene;

II. separating and purifying 2,6-dialkylnaphthalene from said dialkylnaphthalene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkylnaphthalene fraction;

IIa. isomerizing said fraction lean in dialkylnaphthalene;

IIb. separating the isomerization product of step IIa into a fraction comprising dialkylnaphthalene and a fraction lean in dialkylnaphthalene;

IIc. feeding said fraction comprising dialkylnaphthalene of step IIb to step II;

III. dealkylating said naphthalene and [monoalkynaphthalene] monoalkylnaphthalene fraction of step I, said second dialkylnaphthalene fraction produced in step II and a fraction lean in dialkylnaphthalene from step IIb;

IV. separating a naphthalene and [monoalkynaphthalene] monoalkylnaphthalene fraction from said dealkylation of step III;

V. alkylating said naphthalene and [monoalkynaphthalene] monoalkylnaphthalene fraction of step IV; and

VI. recycling a product from step V to step I.

24. (Amended) A process for producing 2,6-dialkylnaphthalene from a feedstock, comprising the following steps:

I. separating said feedstock into a fraction comprising naphthalene, a fraction comprising [monoalkynaphthalene] monoalkylnaphthalene, a fraction comprising dialkylnaphthalene and a fraction comprising remaining products;

II. separating and purifying 2,6-dialkylnaphthalene from said dialkylnaphthalene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkylnaphthalene fraction;

IIa. dealkylating second dialkylnaphthalene fraction produced in step II and recycling the product of dealkylation to step I;

III. dealkylating said fraction comprising remaining products of step I and recycling a product of dealkylation to step I;

IV. alkylating said fractions comprising naphthalene and comprising [monoalkynaphthalene] monoalkylnaphthalene of step I.

25. (Amended) A process for producing 2,6-dialkylnaphthalene from a feedstock, comprising the following steps:

I. separating said feedstock into a fraction comprising naphthalene, a fraction comprising [monoalkynaphthalene] monoalkylnaphthalene and a fraction comprising dialkylnaphthalene;

II. separating and purifying 2,6-dialkylnaphthalene from said dialkylnaphthalene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkylnaphthalene fraction;

III. dealkylating said second dialkylnaphthalene fraction produced in step II;

IIIa. recycling the product of step III to step I; and

IV. alkylating said fractions comprising naphthalene and comprising [monoalkynaphthalene] monoalkylnaphthalene of step I.

26. (Amended) A process for producing 2,6-dialkylnaphthalene from a feedstock, comprising the following steps:

I. separating said feedstock into a fraction comprising naphthalene, a fraction comprising [monoalkynaphthalene] monoalkylnaphthalene, a fraction comprising dialkylnaphthalene and a fraction lean in dialkylnaphthalene;

II. separating and purifying 2,6-dialkylnaphthalene from said dialkylnaphthalene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkylnaphthalene fraction;

IIa. isomerizing said fraction lean in dialkylnaphthalene of step I;

IIb. separating the isomerization product of step IIa into a fraction comprising dialkylnaphthalene and a fraction lean in dialkylnaphthalene;

IIc. recycling a dialkylnaphthalene fraction of step IIb to step II;

III. dealkylating said second dialkylnaphthalene fraction produced in step II and a fraction lean in dialkylnaphthalene of step IIb;

IV. alkylating said fractions comprising naphthalene and comprising monoalkylnaphthalene of step I; and

V. recycling a product from step III to step I.

27. (Amended) A process for producing 2,6-dialkylnaphthalene from a feedstock, comprising the following steps:

I. separating said feedstock, in distillation towers, into a fraction comprising 2,6-dimethylnaphthalene, a fraction comprising 1,6-dimethylnaphthalene and a fraction comprising a remainder;

II. purifying 2,6-dialkylnaphthalene from said [2,6-dimethylnaphthlane] 2,6-dimethylnaphthalene fraction of step I to produce 2,6-dialkylnaphthalene and a second dialkylnaphthalene fraction;

IIa. isomerizing said 1,6-dimethylnaphthalene fraction of step I;

IIb. separating the isomerization product of step IIa into a fraction comprising 2,6-dimethylnaphthalene and a fraction comprising a remainder;

IIc. feeding said fraction comprising 2,6-dimethylnaphthalene of step IIb to step II;

III. dealkylating said fraction comprising a remainder of step I, said second dialkylnaphthalene fraction produced in step II, and a fraction comprising a remainder of step IIb;

IV. separating a naphthalene and methylnaphthalene fraction from said dealkylation of step III;

V. alkylating said naphthalene and methylnaphthalene fraction of step IV; and

VI. recycling a product from step V to step I.

IN THE ABSTRACT

Please replace the abstract with the attached abstract.